For the world’s largest brewers of beer and for one of the most popular “craft” brewers in the Midwest, “keeping cool” is not a lightly used phrase; it is critical for business. That is the reason Bell’s Brewery of Kalamazoo, Michigan is using chemistry from The Dow Chemical Company for its brewing operations. Indeed many beer and wine makers use DOWFROST™ Inhibited Propylene Glycol heat transfer fluid, making it the leading brand within the industry for the past 50 years. Bell’s Brewery is among the top 15 largest craft breweries out of some 2,000 operating in the United States. The brewery produced 216,000 barrels in 2012, with an expectation to reach 250,000 barrels in 2013 (each barrel contains 31 gallons of beer). What makes Bell’s even more special is a 20% per year growth rate achieved entirely because of their reputation for making quality beers and word of mouth advertising.

Keeping things Cool

Subtle differences between batch to batch brewing temperatures, particularly during primary and secondary fermentation stages, can affect the taste, color and aroma of beer. Just a few degrees higher means yeast will produce larger amounts of ester-based components; even when present at part per quadrillion levels, these can have a profound effect on flavor. DOWFROST™ Inhibited Propylene Glycol was selected by Bell’s as their secondary coolant because of the vital role played by consistent temperature control in making quality beer. “We have been using DOWFROST™ here at Bell’s for about 15 years,” said John Mallett, director of operations for Bell’s. “We would not be interested in considering another brand of coolant, because we know the quality we are getting with Dow.

Safe Around Food & Beverage Manufacture

DOWFROST™ Inhibited Propylene Glycol continues to be the safest, least toxic, and most trusted brand within the beer making industry. All components used in DOWFROST™ are approved by the FDA as direct food substances and are affirmed to be generally regarded as safe (GRAS). The food safe corrosion inhibitor used in DOWFROST™ not only helps prevent corrosion of metals commonly used for construction of brewery process equipment, but helps ensure long term thermal stability of the fluid. In the event of an accidental leak, the food grade status of DOWFROST™ ingredients provides safety assurance.

The Right Solution

For brewing beer, a 25-45 percent solution of DOWFROST™ Inhibited Propylene Glycol is normally used because it provides dependable temperature control at lower temperature capabilities than water. Typically the DOWFROST™ Fluid is chilled to zero degrees centigrade and re-circulates through cooling coils submerged within a tank or through an external “jacket” which surrounds the tank. “Using DOWFROST™ allows us to control to temperatures plus or minus one degree throughout the brewing process,” Mallett said. There is additional peace of mind knowing that Dow stands behind the product by providing comprehensive analytical and technical support.

Energy Efficiency

Refrigeration costs can add up to more than 30% of a brewer’s electrical consumption. With energy prices already high and rising further, paying attention to factors which affect efficiency can pay big dividends. Using a properly inhibited glycol like DOWFROST™ Fluid helps keep heat transfer surfaces free of corrosion deposits, helping maintain original design efficiencies. Many so called “bargain brand” or inferior fluids cannot provide the same long term corrosion protection as DOWFROST™ can and this leads to loss of system efficiency and higher energy costs. Effective corrosion protection of pipes, pumps, chillers and tanks also ensures smooth operation, reduces maintenance costs and avoids expensive downtime needed for repair of leaks or damage to equipment which can be caused by corrosion.

Conclusion

Protecting expensive brewing equipment is one thing. Protecting the quality and reputation of your beer is another. Quality brewers like Bell’s fully appreciate the importance of using a reliable and proven heat transfer fluid like DOWFROST™ Inhibited Propylene Glycol. Want more proof? Try pouring yourself a cold refreshing glass of Bell’s Oberon Ale or another one of their classic brews. Cheers!